

**ABSTRACT**

A communications system (10) for processing video signals in a video-on-demand service employs centralized transcoding in a way that a relatively small amount of transcoding equipment (15) is required, as opposed to transcoding every transport stream. In addition, the embodiments of the present invention do not require transitions from non-transcoded sessions to transcoded sessions. According to one aspect of the present invention, bandwidth is reserved at the node groups (14a-c) for transcoded services, and transcoding is initiated before the node group (14a-c) exceeds its assigned bandwidth. This method provides the opportunity to add additional transcoded services and start decreasing bandwidth allocations to individual channels or services without interrupting existing sessions.